

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
20 January 2005 (20.01.2005)

PCT

(10) International Publication Number
WO 2005/005251 A1

(51) International Patent Classification⁷: **B64C 9/20**, 9/16

GNAROWSKA, Anna [PL/PL]; ul. M. Grzegorzewskiej
3 m 28, PL-02-778 Warszawa (PL).

(21) International Application Number:
PCT/PL2004/000054

(74) Agent: **OCHENDAL, Janina**; Al. Krakowska 110/114,
Instytut Lotnictwa, PL-02-256 Warszawa (PL).

(22) International Filing Date: 9 July 2004 (09.07.2004)

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
P.361221 11 July 2003 (11.07.2003) PL

(71) Applicant (for all designated States except US): **INSTYTUT LOTNICTWA** [PL/PL]; Al. Krakowska 110/114,
PL-02-256 Warszawa (PL).

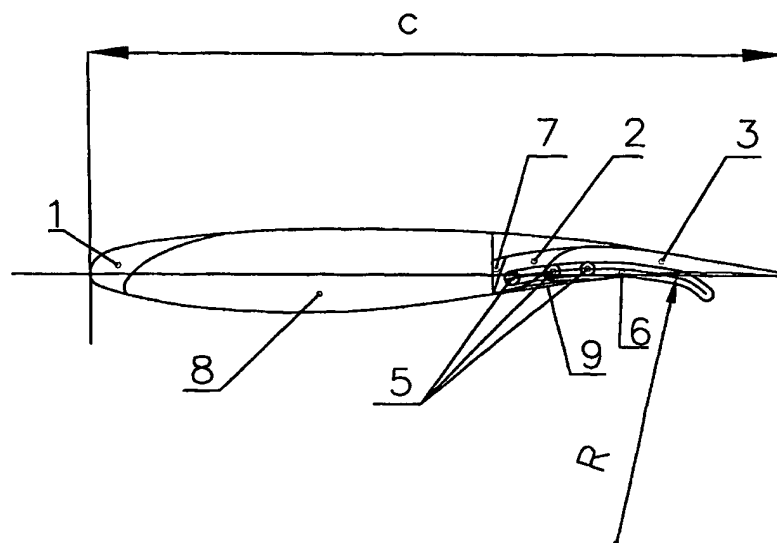
(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **GNAROWSKI, Włodzimierz** [PL/PL]; ul. M. Grzegorzewskiej 3 m
28, PL-02-778 Warszawa (PL). **KANIA, Wojciech**
[PL/PL]; ul. Sonaty 6 m 910, PL-02-744 Warszawa (PL).

[Continued on next page]

(54) Title: WING OF AIRCRAFT



(57) Abstract: Wing of aircraft with slats (1) and one-slotted sliding flaps with driving gear, is characterized by two movable segments in each flap: fore box (2) and main flap (3), which are connected by spring actuators (4) to each other and move on rolls (5) along guides (6) of radius (R) bigger than a half chord (c) of wing airfoil section. The flap segments are located in chamber (7), which composes a sector of cylinder wall with thickness limited by both upper flow-surface of wing box (8) and closing panel (9) situated at the bottom of this box. Fore box of flap is situated in each of its position at least partially within the chamber, whereas the main flap is situated in its various positions at least partially within the chamber or fully beyond it. Driving gear of each flap is located along wing span and completely hidden in transversal outline of the wing.

WO 2005/005251 A1

**Declarations under Rule 4.17:**

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for the following designation US
- of inventorship (Rule 4.17(iv)) for US only

Published:

- with international search report
- with amended claims

Date of publication of the amended claims: 17 March 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.